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Knowledge and perception on human papilloma virus infection and vaccination among medical students of a university in Malaysia

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Abstract

Cervical cancer is the third most common malignancy among women worldwide including Malaysia. However, knowledge on the illness still low which resulted in poor attitude towards its prevention. The present study was conducted to determine knowledge and perception on Human Papilloma Virus (HPV) infection and vaccination among medical students in a university in Malaysia. A cross sectional study was conducted among 120 medical students in a university in Malaysia. A set of questionnaire were distributed to the respondents to gather the data. Descriptive statistics including frequency and percentage for categorical variables and mean (SD) for continuous variables were calculated. Among respondents, 103 (85.8%) and 96 (80.0%) of them had heard about HPV and HPV vaccination program respectively. Mean knowledge score and proportion of intention to receive HPV vaccine was higher among clinical year compared to preclinical year group. Intention to receive HPV vaccination among clinical year and preclinical year group was 78.3% and 50.0% respectively. Being a medical student does not warrant good knowledge and perception on HPV infections and its prevention. Respondents from clinical year group had a better knowledge and higher proportion of intention to receive HPV vaccine.

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1. Introduction

Cervical cancer is the third most common cancer among women worldwide which involved 275 000 deaths and it was estimated that 529 000 new cases of cervical cancer in 2008 (WHO, 2008). Similarly, it is also ranked the third most common cancer which contributed 9.1 % of all cancers among Peninsular Malaysian women (National Cancer Registry, 2006). Human papilloma virus (HPV) is the necessary cause for the development of cervical cancer (Doorbar, 2006) and it is the most common infection among young and sexually active individuals (Weaver, 2006).

The primary method for prevention of cervical cancer now is through the HPV vaccination. The available vaccines are highly effective in adolescent girls especially if administered to them before they engage in a sexual activity (Villa et al., 2005). Another method that can be used to prevent cervical cancer is the Papanicolaou smear test. However, the situation in Malaysia indicates that the Pap smear coverage has not reached the targeted

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population. Malaysian women have low rates of cervical cancer screening awareness, intention, and utilization (Othman, 2003).

In 2010, Malaysian government started providing a free three doses HPV vaccination for 13 years old women with the consent of their parent (Bernama, 2009). However, the vaccine is not offered to university students. As medical students are future healthcare professionals who can help to raise awareness of the public on cervical cancer and its prevention, it is important to assess their knowledge in order to develop educational programs to increase their knowledge and improve their attitude towards prevention of cervical cancer. The present study was conducted to determine the knowledge on HPV infection, cervical cancer and HPV vaccination among medical students in a university in Malaysia and to assess their perception towards HPV vaccination.

2. Methodology

The present cross sectional study was conducted from February 2011 until March 2012. Using a single mean formula with alpha set at 0.05, standard deviation (SD) of 1.97 and precision at 0.35, the required sample size after considering 10% non-response rate was 134. We applied a simple random sampling to select 134 respondents from a total of 850 medical students in a university in Malaysia.

A set of pretested and validated questionnaire were distributed to the respondents to gather the data. The items in the questionnaire assessed knowledge and perception of the respondents towards Human Papilloma Virus (HPV) infection, cervical cancer as well as HPV vaccination. In the knowledge domain, questions on HPV, its vaccination, genital warts, cervical cancer and Pap smear were asked. The respondents were required to choose either “yes”, “not sure” or “no”. For a correct response, a score of three was awarded and two mark for “not sure” and one mark for incorrect response. Total score for knowledge was calculated by adding up all scores for each items and the possible range of scores ranged from 20 to 60 marks. The independent variables were age, ethnicity, year of study (divided into preclinical and clinical year) and gender. Independent t-test and chi-squared test was used to determine the significant association between the tested parameters.

Data were entered and analyzed using IBM SPSS Statistics version 20. Descriptive statistics including frequency and percentage for categorical variables and mean (SD) for continuous variables were calculated. P-value of less than 0.05 was judged to be statistically significant. The study was approved by the University Ethics Committee. All respondents were explained about the objectives of the study and written consent was obtained. Confidentiality of data was kept throughout the study which only researchers can access to the data.

3. Results

A total of 120 respondents were consented for the study giving a response rate of 89.6%. Fifty percent of the respondents were male (60) and from clinical year groups (60) respectively. Among the respondents, 103 (85.8%) of them had heard about HPV while 96 (80.0%) of them knew that free HPV vaccination program was available in Malaysia. Among male, 48 (80.0%) of them had heard about HPV while 55 (91.7%) among female had. Meanwhile, 44 (73.3%) of males had heard about HPV vaccination program and 52 (86.7%) of females had.

Table 1 shows the distribution of source of information on HPV vaccination program among the respondents. Television was the main source of information on the HPV vaccination program for the respondents.

Table 1. Distribution of source of information on HPV vaccination program

Sources	n	%
Friend	22	22.9
Television	24	25.0
Newspaper	21	22.0
Radio	6	6.2
Magazines	3	3.1
Others	20	20.8

The mean (SD) knowledge score among respondents was 49.7 (5.01) and it ranged from 40-59. Table 2 shows there was a statistically significant difference in mean knowledge score between preclinical and clinical year group.

Table 2. Comparison of knowledge score between preclinical and clinical year group

Variable	Preclinical group (n=60) Mean (SD)	Clinical group (n=60) Mean (SD)	Mean diff. (95% CI)	t-stat (df)	P value
Knowledge score	46.0 (4.09)	53.4 (2.48)	7.4 (6.17,8.63)	11.98 (118)	<0.001

Among the respondents, 77 (64.2%) of them had an intention to receive HPV vaccine. Table 3 shows there was a significant association between sex as well as group of students (preclinical and clinical year) and intention to receive HPV vaccine.

Table 3. Association between intention to receive HPV vaccine and group of students (Preclinical and Clinical year group)

Variables	Intention to receive HPV vaccine [n (%)]		P value
	Yes	No	
Group	30 (50.0)	30 (50.0)	0.001
Preclinical Year			
Clinical Year	47 (78.3)	13 (21.7)	
Sex			
Male	25 (41.7)	35 (58.3)	< 0.001
Female	52 (86.7)	18 (13.3)	

* Chi-square test, $p < 0.05$ as significant at 95% CI

4. Discussion

The proportion of ever heard about HPV and HPV vaccination among medical students was about 86% and 80% respectively. This findings were much higher as compared to the study among rural folks in Penang, Malaysia which were found only about 29% and 42% of them had heard of HPV and HPV vaccination respectively (Khoo et al., 2011). Among females, 91.7% of them had heard of HPV and 86.7% had heard of HPV vaccination. This is higher as compared to a study by Al-Dubai et al. (2008) who found that only 26.0% and 21.7% of females' respondents had heard of HPV and HPV vaccination respectively. Meanwhile, 80.0% of males had heard about HPV and 73.3% of them had heard about HPV vaccination program. In contrast, a study done by Ferris et al. (2008) found that about 10% of the male respondents reported to have heard of HPV. This could be explained by the selected respondents in the present study who were medical students. They might have a better knowledge because of their educational background.

In the present study, we found that the main source of information on HPV was from television and newspapers as compared to other media. These findings supported that the main easily accessible media among students were television and newspaper. To increase the knowledge on HPV, its information should also be emphasized in other media such as magazines and radio.

The total knowledge score among respondents was relatively high with 49.7 from a maximum score of 60. This could be due to their nature of being medical students as they were studying medicine. The total score of knowledge on HPV infection, cervical cancer and HPV vaccination was higher among clinical year group as compared to preclinical year. This could be explained by a more exposure the clinical year group experienced while undergoing their study in medicine. The introduction of free HPV vaccination program could also contribute to the findings as supported by Donders et al. (2009) who found that young and lower educated women had dramatically improved their knowledge one year after the introduction of HPV vaccination.

Pertaining to intention to receive HPV vaccine, only about 64% of the respondents had. In the present study, we found that there was a significant association between group of students (preclinical and clinical year) and intention

to receive HPV vaccine. There was also a significant association between sex and intention to receive HPV vaccine. Proportion of intention to be vaccinated was higher among female and clinical year group. Among males, only about 42% were willing to be vaccinated as compared to about 87% among females. This is consistent with the study by Al-Naggar (2012) who found that about half of the young male Malaysians were willing to accept the HPV vaccine.

It is ideal to enhance the knowledge on HPV and its vaccination among medical students as they can act as educators to public while undergoing their medical curriculum. As males seem to have lower knowledge on HPV, they should be prioritized to be equipped with the knowledge. As an intention to receive HPV vaccination is high especially among female students, a free HPV vaccination should also be implemented at universities' campuses. This will ensure a better coverage of the vaccine as well as to reduce the burden of cervical cancer in Malaysia.

5. Conclusion

Being a medical student does not warrant good knowledge and perception on HPV infections and its prevention. Intention to receive HPV vaccine is relatively low among the medical students. In comparison, respondents from clinical year group had a better knowledge and higher proportion of intention to receive HPV vaccine. We recommend an earlier input on HPV in medical curriculum, preferably during their entry to the program. Raising men's awareness and knowledge on risks of HPV is also essential.

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